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ABSTRACT

This guide is intended to assist professionals in helping students explore apprenticeship as one alternative for entry into the work force. Additionally, it provides the processes for acquiring and registering in an apprenticeship program. The introduction focuses on the Apprenticeship-School Linkage Project; benefits for students, schools, and employers; and objectives of the Maryland Project. Guidelines for the Maryland apprenticeship system follow. Requirements for entrance into an apprenticeship program are also listed. Eight steps are then described that are a suggested sequence in the guidance, career decision-making process leading to an apprenticeship program placement for individual students. This information for students is provided: what to expect, how apprenticeship programs operate, student responsibilities, and what an apprenticeship can do. The components of the apprenticeship agreement are then discussed, followed by some guidance questions and answers. Concluding the guide are a bibliography and these appendixes: a glossary; addresses of local, state, and federal resources; a list of apprenticeable occupations; sample forms; and a list of references. (YLB)

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Assisting Students in Accessing...

Apprenticeship Programs

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A Guide for the Apprenticeship School Linkage Program

1983

CE 038 567

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FOREWORD

The process of assisting persons to become apprentices has grown because of the need to fill voids in master craftsmen and technicians and to fill voids caused by the rapid change to a high-technology society. The history of learning craft mastery is well-documented and for many years apprentices learned all that was required by working side by side with the "master" observing and doing as they saw done. However, today's rapidly changing workforce has caused this process to change. The number of apprenticeable occupations of today is over 900 and growing in number. The quality of required instruction is changing in most to include college-level content. The national trend from forced-technology to high-technology might result in a worker having to go through two or more apprenticeships during her/his lifetime in order to stay in the workforce.

As the world of work continues its rapid change, the concept of apprenticeships is also changing. Current trends in mentoring, entrepreneurial skills, increased need for on-the-job training in fields that are new, cooperative education, internships, and residencies all impact upon the nature of apprenticeship programs. An expanded definition of apprenticeship programs allows young people to be creative in helping to define their apprenticeships as well as to take an active role in choosing a mentor. The apprenticeship-school linkage program is one step toward increasing the flexibility and relevance of apprenticeship opportunities to meet specific needs of individual students.

This document is one of several products or services developed to provide technical assistance to education agencies in establishing apprenticeship-school linkage programs in Maryland. Its purpose is to assist professionals in helping

students explore apprenticeship as one alternative for entry into the workforce. Additionally, it provides the processes for acquiring and registering an apprenticeship.

Users who are unfamiliar with the apprenticeship system should consult the resources listed in the bibliography. Additional information can be acquired by interviewing journeypersons in particular crafts, trades, and technical fields. The suggested processes included in this guide follow guidelines of the U.S. Department of Labor, Bureau of Apprenticeship and Training, and the Maryland Apprenticeship and Training Council, an agency of the State Department of Licensing and Regulations in the Division of Labor and Industry.

Appreciation is expressed to the members of the staff of the Pupil Services Branch, Division of Compensatory, Urban, and Supplementary Programs; the Apprenticeship and Related Instruction Specialist, Division of Vocational-Technical Education; the Apprenticeship-School Linkage Program Coordinators in Baltimore City, Anne Arundel and St. Mary's Counties Public Schools; and the Director of the Maryland Apprenticeship and Training Council for reviewing the drafts of this publication.

C.D. Johnson and Sharon K. Johnson
Johnsons and Associates
1983

INTRODUCTION

THE APPRENTICESHIP-SCHOOL LINKAGE PROJECT

In 1977, the U.S. Department of Labor confronted the issues of school-to-work transition and youth unemployment by implementing Apprenticeship-School Linkage Projects in eight demonstration locations throughout the United States.

These innovative projects combined the youth-counseling and classroom resources of schools with the traditional marketplace concept of on-the-job apprenticeship training in order to provide relevant employment opportunities for youth and a reliable source of skilled manpower for employers.

The Maryland State Department of Education, Division of Instruction, Youth Employability Branch, has initiated an Apprenticeship-School Linkage Project. In Apprenticeship-School Linkage Programs, twelfth-grade high school seniors are placed in apprenticeable positions with local employers. They work as registered apprentices while completing high school. The program ensures that students receive training that meets specific standards prescribed by the employers. The student continues in the skilled and technical job after high school graduation.

Apprenticeship-School Linkage Programs have proven to offer the following benefits for students, schools, and employers

For Students:

- Official recognition of training standards through registered apprenticeships.
- The opportunity to earn income while learning a trade and completing a high school education.
- A continuing job opportunity following high school graduation.
- A career ladder after high school graduation with continued opportunity for skill development and wage advancement.

For Schools:

- The opportunity for schools to establish a direct linkage with employers' needs for skilled manpower.
- Real-world learning experiences within the school structure at less cost to the schools because apprentices are provided with on-the-job training.

For Employers:

- The opportunity for employers to hire, pre-screen, and pre-train young workers.
- The opportunity for employers to train entry-level workers to meet their specific labor needs.
- The opportunity to use the expertise of educators in designing and delivering job training.

Apprenticeship-School Linkage Programs in progress are rated as an effective means of training youth for employment and transition from school-to-work.

PROJECT OBJECTIVES

The Maryland Apprenticeship-School Linkage Project builds upon the successes of the U.S. Department of Labor-funded demonstration Apprenticeship-School Linkage Projects. The Maryland Project is designed to provide apprenticeship opportunities for twelfth-grade youth attending Maryland public high schools. Through the Project, students have the opportunity to begin apprenticeship training as student apprentices while completing the required coursework for high school graduation. After graduation, students continue apprenticeship training until competencies are achieved and journeymen status is gained.

The goal of the Maryland Apprenticeship-School Linkage Project is to increase youth employability and contribute to the fulfillment of manpower needs of industry. The objectives of the Project are:

1. To develop, operate, and test an approach toward assisting youth in making the transition from school-to-work.

2. To assist youth in making career decisions concerning the selection of an occupation for training and apprenticeship as a preparation mode.

3. To provide occupational training and work experience opportunities for youth through apprenticeship placements.

4. To provide for related instruction designed to meet the individual needs of participant apprentices.

5. To provide appropriate assistance for participant apprentices through instructional and counseling programs.

6. To increase coordination of programs and services and maximize the use of resources within local school systems.

7. To involve industry in the planning, operation, and evaluation of the Apprenticeship-School Linkage Project.

There are 130 registered trades in Maryland today with approximately 5,000 registered apprentices. These vary from optical workers to exterminators to chefs to dental technicians to machinists to carpenters. The different kinds of apprenticeship are expanding.

The Maryland Apprenticeship and Training Council and the Bureau of Apprenticeship and Training in cooperation with the Maryland State Department of Education and local education agencies are currently promoting apprenticeships as alternatives in career planning. In addition, some local education agencies have work coordinators as well as guidance counselors working with local business and industrial personnel to create new apprenticeship opportunities.

THE APPRENTICESHIP SYSTEM

MARYLAND GUIDELINES

In Maryland, apprenticeship training programs operate under the jurisdiction of the Bureau of Apprenticeship and Training (BAT), an agency of the United States Department of Labor, and the Maryland Apprenticeship and Training Council (MATC), an agency of the Department of Licensing and Regulation in the Division of Labor and Industry. The Maryland State Department of Education is a cooperating agency which has the responsibility of approving related instruction fiscal matters. The MATC approves and registers all of Maryland's apprentice training programs.

Actual training of apprentices is conducted by a "sponsor" in accordance with standards jointly developed by the sponsor and designated representatives from the BAT or MATC offices.

- A "sponsor" is an employer and may be organized labor or a union, a corporation or large company, or an individual small company.
- A sponsor must establish and register programs with the Maryland Apprenticeship and Training Council.
- Before training starts, the apprentice and person representing the sponsoring union, corporation, or business must sign a written agreement which delineates:

  The terms and conditions of employment

  The work processes

  The related instruction plan

  The graduated pay scale

  The safety and health provisions

  The equal opportunity pledge and affirmative action plan.

  Businesses and industries employing five or more apprentices are required to file an affirmative action plan and selection methods.

- The signed agreement is forwarded to the MATC for program registration and for review and approval. When approved by the Council, the registration is complete and the employer can begin to register and train apprentices in accordance with registered standards.

- Shortly thereafter, both the employer and employee will receive a copy of the signed, formal agreement along with a "work process" which is the apprentice's training program outlined in general terms. A sample agreement and work process are provided at the end of this section.

Apprenticeship training programs are comprised of on-the-job training and related theory instruction. This combination provides the foundation for a person to become a master craftsperson, tradesperson, or technician. An apprenticeable year is a minimum of 2000 hours of on-the-job training and a recommended 144 hours of related instruction. Each day on the job, an apprentice learns and practices the occupation under the supervision of a skilled craftsperson, tradesperson, or technician.

- For a specified period each week, the apprentice receives a thorough understanding of the theoretical aspects of his or her work through related instruction. A minimum of 144 hours of such instruction for each year of an apprentice training program is required. This instruction is most frequently organized into two-hour periods, twice a week, during a 36-week school year. Related instruction can be provided through a public school vocational program, local high schools, evening classes, technical schools, community colleges, in-plant at the sponsor's training station, or state-approved correspondence schools. Adequate and safe equipment and facilities are furnished and safety training for apprentices on the job and in related instruction is provided.

- Detailed study and work records are kept and the training progress of the apprentice is evaluated frequently.

- Apprentice pay starts at a percentage of the skilled craftsperson's, tradesperson's, or technician's pay which cannot be less than minimum wage. Increases, commensurate with increased knowledge and ability, are received at regular intervals.

- A probation period is part of all apprentice training programs. During the probation period, which usually runs between 30 days and six months, the apprenticeship agreement may be cancelled by either the apprentice or sponsor without stated cause. After the probation period, the agreement may be cancelled by the sponsor for cause or at the request of the apprentice.

Upon successful completion of the on-the-job training and related theory instruction, an apprentice is eligible for a Certificate of Completion of the Apprenticeship from the Maryland Apprenticeship and Training Council.

Apprenticeship Requirements

Requirements for entrance into an apprentice training program may vary from sponsor to sponsor and from occupation to occupation. Generally, however, a potential candidate must meet the following minimum standards before being considered for an apprentice training position:

Age:

Minimum legal working age, which is 16 for non-hazardous occupations and 18 for hazardous occupations.

Education:

A high school diploma or its equivalent; some sponsors waive this requirement.

Aptitude:

Aptitude appropriate to the occupation. Aptitude tests are sometimes administered, especially for those programs sponsored by organized labor, to measure a person's capacity to acquire proficiency with training.

Manual Dexterity:

At least one ordinary dexterity. Tests to determine manual dexterity are sometimes administered, especially for those programs involving the construction trades, since an apprentice must work with both hands and head.

Health:

The ability to accomplish the physical requirements of the craft, trade, or technological occupation. Exams are sometimes given to determine an applicant's physical condition.

Attitude:

A willingness to abide by the rules and regulations of the sponsor. Interviews are usually given to determine an applicant's attitude.

Other:

Probationary and/or other preliminary employment requirements.

Corporate-sponsored programs often set such requirements. It should be noted that the education requirement may be waived for students enrolled in an apprenticeship-school linkage project.

ASSISTING STUDENTS IN OBTAINING APPRENTICESHIPS

During the junior high years or early in their senior high school program, youth should become acquainted with the opportunities in apprenticeship. Learning about apprenticeship at this age provides an opportunity for students to take courses in preparation for apprenticeship. Specific pre-apprenticeship courses would be helpful; however, sometimes these courses are unavailable. In these instances, industrial orientation classes, mathematics, drafting, and blueprint reading are considered valuable preparation for many apprenticeable occupations. The following steps are a suggested sequence to be considered in the guidance, career-decision making process leading to an apprenticeship program placement for an individual student.

Step 1 Provide General Awareness

Provide students with information on the apprenticeship training system in the United States.

One post-high school option is an apprenticeship program. The following information will help students understand apprenticeships:

- An apprenticeship is a structured on-the-job training program.
- The program includes organized instruction designed to provide knowledge in technical subjects related to their trade. A minimun of 144 hours is necessary.
- The starting age is not less than 16.
- An apprenticeship has a schedule of work processes in which the student is to receive training and experience on the job.
- There is a progressively-increasing schedule of wages (not less than minimum wage).
- Proper supervision and adequate facilities for on-the-job training are assured.
- Successful completion of the program is recognized through awarding of a certificate.

Step 2 Identifying Potential Apprentices

After students have been given a general awareness of the apprenticeship training system, some will express interest in a particular occupational area or field. These students should be interviewed to assist them in determining their interest and abilities, aptitudes, and basic training. A number of career guidance tests or inventories are available to help the student determine her/his real interests. Additionally, a considerable amount of information is available on almost all occupations and can be made available to students. Some students will identify themselves through excellence in vocational pursuits. In these instances, teachers of vocational education courses may be the best sources to identify and recommend students with intellectual ability and mechanical interests.

Potential apprentices are students who:

- Identify an interest in a skilled trade in construction, manufacturing, or service which can be learned with on-the-job training.
- Are identified by vocational teachers as having intellectual ability and mechanical interest necessary for craftsmanship.
- Have selected and enjoyed classes in vocational or cooperative education during their high school years.
- Have had part-time jobs in apprenticeable job sites and enjoy the work.
- Have ruled out other options such as college or technical school, choosing to begin working right away but may not be satisfied with an unskilled job over a period of time.
- Are looking for a way to get some practical working experiences but want a definite plan to progress beyond a beginning level.

Step 3 Selecting an Occupation

Students wishing to explore possible apprenticeship programs can:

- Take interest inventories and aptitude assessments to support self-perception.
- Identify possible careers that correlate with perceived and measured interests/aptitudes.

- Research possible careers to identify requirements, future, wages, etc.

- Identify careers (from those researched) that might be apprenticeable.

Step 4 — Determine if Occupation Is Apprenticeable

To make this determination:

- Refer to list of apprenticeable occupations in Appendix of this guide provided by the Bureau of Apprenticeship and Training. More than 900 occupations are recognized as apprenticeable.

- New apprenticeships are possible if the desired job meets the criteria of a highly skilled area that involves manual, mechanical, or technical skills and knowledge that requires 2000 hours of training on-the-job as well as classroom instruction.

- Call the Maryland Apprenticeship and Training Council or the Bureau of Apprenticeship and Training for assistance. Phone numbers for these agencies are listed in the Appendix.

Step 5 — Determine Student Qualifications

Does the student meet the minimum qualifications for a specific occupation?

- General standards include:

Age:

Minimum legal working age which is 16 for non-hazardous occupations and 18 for hazardous occupations.

Education:

A high school diploma or its equivalent. As part of a School-to-Work Linkage Program, student must be a high school senior, twelfth-grade, and in good standing for graduation. For the Apprenticeship-School Linkage Program, a student must have defined career goals, supported through exploration, investigation, work experience, vocational evaluation, an indication of appropriateness of apprenticeship and have apprenticeship readiness and/or skills, behaviors, and attitudes to meet standards for apprenticeship entry.

Aptitude:

Aptitude appropriate to the occupation. Aptitude tests are sometimes administered, especially for those programs sponsored by organized labor, to measure a person's capacity to acquire proficiency with training.

Manual Dexterity:

At least ordinary manual dexterity. Tests to determine manual dexterity are sometimes administered, especially for those programs involving the construction trades, since an apprentice must work with both hands and head.

Health:

The ability to accomplish the physical requirements of the craft, trade, or technological occupation. Exams are sometimes given to determine an applicant's physical condition.

Attitude:

A willingness to abide by the rules and regulations of the sponsor. Interviews are usually given to determine an applicant's attitude.

Other:

Probationary and/or other preliminary employment requirements. Corporate-sponsored programs often set such requirements.

- Specific standards vary from occupation to occupation.
  - Review publications outlining training and educational requirements as well as personal qualifications:
    - Dictionary of Occupational Titles
    - Occupational Outlook Handbook
    - Standards books published by trade organizations and the Bureau of Apprenticeship and Training
    - Handbook of Occupations and Professions Licensed by the State of Maryland, published by the Division of License and Regulations.
  - Compare requirements and qualifications for specific programs with characteristics identified in student's profile.

Step 6 — Determine Job Suitability

Can the student successfully work under the conditions accompanying the selected occupation?

- Conditions can be hazardous, noisy, strenuous, or otherwise uncomfortable for a particular individual.
- Consult publicatons identified in Step 4 for information on working conditions.

- Arrange for student to talk to someone in this occupation about working conditions.
- Arrange a "shadow" day so the student can experience the working conditions for a day.
- Discuss with students any concerns--long-range implications of working in a given situation over a period of time.

Step 7 — Finding a Job

Once the student feels sure of the occupation selected, assistance is needed in finding a job.

A. Job-Information

- Information on specific apprenticeship openings can be obtained by calling the Bureau of Apprenticeship and Training, the Maryland Apprenticeship and Training Council, or the Apprenticeship Information Center.
- Contact labor unions or trade associations.
- Contact personnel offices of large corporations.
- Read newspaper want ads.
- Contact state employment services.
- Contact small businesses that may not have considered apprenticeship programs.

Remember: Without a job there is no on-the-job training

B. Many apprenticeship opportunities, especially with small businesses, are not listed anywhere because they don't exist until interested individuals make them exist.

- A student can suggest an apprenticeship to an employer and provide the information needed to initiate an apprenticeship. All the employer needs is setting up an apprenticeship.
- It is up to the mentor (teacher, work study coordinator, work experience, vocational placement specialists) to make the student aware of what is required to obtain an apprenticeship. Make sure the student has the information and resources needed to initiate an apprenticeship.

Step 8 The Final Commitment

If the student locates an apprenticeship training opportunity:

- Student or mentor should call the Maryland Apprenticeship and Training Council to set up a meeting with the employer.
- This meeting will include review of training site and equipment and clarification of requirements and responsibilities of employer as sponsor and employee as apprentice.
- The apprentice representative will assist employer to complete and file the formal standards and apprenticeship agreements.
- Student should have the following documents available on day of the meeting in order to complete all agreements:
  - High school diploma or GED (unless this is an apprenticeship-school linkage project)
  - High school transcript
  - Birth Certificate
  - Medical Certificate
  - Social Security Card.

APPRENTICESHIP

What to Expect
How Apprenticehsip Programs Operate
Responsibilities

For the Student:

The apprentice is an employed worker, receiving training on-the-job.

What to Expect:

- You will be paid good wages while learning.
- An apprentice becomes self-reliant at a comparatively early age.
- An apprentice presents no financial burden to parents.
- You will work under the direction of a competent journeyperson at all times and will receive close personal attention.
- You will attend classes for three or four hours each week to learn those things which cannot be taught economically in the shop or at the job site.
- Your instructor will be a capable, practical, and experienced person selected from the industry.
- Work reports, class grades, and attendance will be reviewed before each wage increase which you must earn.
- Your rate of pay will increase as your knowledge and ability increase.
- You will learn to produce with modern tools and machines.
- You will gain experience by the latest methods.
- You will acquire current knowledge of industrial materials.

Other Advantages:

You will:

- Have an opportunity to work in harmony with different types of trades, crafts, or technical people in a work setting.
- Learn to work within a company or work organization.
- Increase employability and economic security.
- Recieve recognition as a skilled worker from peers, journeypersons, employers, and union members.

How Apprenticeship Programs Operate:

- The Bureau of Apprenticeship and Training (BAT), U.S. Department of Labor, is a federal agency responsible for apprenticeship programs.
- Training is provided by an employer who signs an agreement with the apprentice stating that the training and experience received will meet federal and state standards.
- Training programs last a minimum of 2,000 hours (not more than 10,000 hours).
- Training programs are comprised of on-the-job training and 144 hours of related instruction.
- Related instruction can be provided by vocational classes in a public school, community college courses, technical school, in-plant training programs, or state-approved correspondence school.
- Detailed study and work records are kept and the training progress of the apprentice is evaluated frequently.
- A probation period of 30 days to six months allows either the employer or apprentice to cancel their agreement without cause.
- After the probation period, the agreement can be cancelled by the employer for cause or at the request of the apprentice.
- Upon successful completion, you may file for a "Certificate of Completion of Apprenticeship." This certificate is a recognized validation of your status as a journeyperson.
- In addition to the certificate, an apprentice may be eligible to receive between 24 and 32 hours of college credit upon completion of the training program.
- The status of journeyperson qualifies you to train an apprentice as well as to earn full wages of the position you have achieved.

Responsibilities:

Although there are many benefits to the student entering into an apprenticeship program, there are also some costs and responsibilities you must assume:

- It will take time to learn your trade. Sometimes on the job and in class you will spend relatively large amounts of time doing simple, boring chores.
- You will receive relatively low wages when you start.
- You must make a commitment for approximately two years of training. Although you can choose to cancel the contract, it is important to be willing to complete the program.

- You must attend work and the related instructional sessions.
- You must comply with production. work, testing, and training expectations.
- You must learn the necessary trade skills on the job.
- You must learn and practice the knowledge and information provided in related subjects instructed.
- You must adhere to work expectations about punctuality, dress, working under supervision, taking directions, and production schedules.
- You must study materials, information, and procedures to ensure that you know what you are doing.
- You must observe appropriate safety requirements in all aspects of apprenticeship.
- You must attempt to improve your skills at each opportunity.
- You must follow faithfully the rules of the sponsor for whom you work.

For the Employer:

When the student or counselor seeks a job with a small company that has not had an apprenticeship program, some basic information may be needed to convince an employer of the benefits of the program.

Studies show that workers completing an apprenticeship program are more highly trained, work more steadily, learn their jobs faster, and are more likely to be supervisors than are workers trained in other ways. They also are more highly skilled, more productive, and safer workers.

What Can Apprenticeship Do?

Well-planned, properly-supervised apprenticeship can:

1. Give workers the opportunity to devleop skills that improve their economic security.
2. Assure a supply of skilled workers adequate to meet community needs.
3. Help assure that consumers receive the quality products and services that only trained hands and minds can produce.

4. Increase worker productivity.

5. Give workers greater job security.

6. Improve employer-employee relations.

7. Minimize the need for supervision by developing initiative, imagination, and ability.

8. Develop future supervisors.

9. Give workers the versatility to adapt to technological changes that require different methods, materials, equipment, and other working conditions.

10. Raise general skill levels.

11. Attract capable young men and women.

STANDARDS OF APPRENTICESHIP

To implement an apprenticeship, a legal contract is signed that formally specifies the responsibilities of the employer and the student. The agreement includes:

1. Definitions - The key terms used in the agreement are defined. These include the names of the various parties and organizations involved as well as any technical terms that must be explained.

2. Qualifications and Selection - The standards state publicly the criteria and process through which the apprentice was selected for the program. Both specific criteria and equal opportunity provisions are included in this section. For example, criteria might include education, prior work experience, a mechanical aptitude and mathematics score, and the evaluation of references.

   This section also usually contains the rules governing granting of prior credit for either work or schooling experiences. Sometimes credit for competency testing also is provided.

3. Job - The standards often state the sponsors' willingness to hire the apprentice. This includes a statement about the employer's desire to provide for continuous employment as well as an indication of the required ratio of apprentices to journeymen on the job. Additionally, the rules concerning layoffs and seniority often are set forth.

4. Time of Apprenticeship - Time considerations included in the agreement set forth the starting and expected conclusion date of the term of apprenticeship. Additionally, the specific required number of hours of on-the-job work and training and the specific amount of time to be spent in related instruction will be written into the agreement. For related instruction, this usually means at least 144 hours a year. For on-the-job training, it means the number of hours over the several years of apprenticeship that will be spent working and training under supervision. This number can range from 2,000 to 12,000, depending upon the trade.

   The time sections of the agreement also set forth the period for probation. During the probationary period, the agreement can be annulled by the sponsor, upon the request of either party, without the formal due process hearing.

5. Financial Obligations - The pay schedule for the apprenticeship term, listed by review period (usually every 6 months), is written into the contract. The rate usually is indicated as a percentage of a journeyman's rate. Financial obligations also can include the requirement that apprentices purchase certain tools and equipment for their own, private, long-term use by a certain point in the apprenticeship term.

6. Training Schedule - In this section of the agreement are specified the most important elements of the training plan. These include statements that state the (a) length of term of the apprenticeship; (b) hours to be worked by the apprentice; (c) overtime regulations; (d) provision and expectation for related subjects instruction; (e) length of the probationary period; and (f) specification of the rotation schedule across job tasks to ensure that apprentices gain experience in all necessary work tasks and equipment.

7. Standards

   (a) Time Commitments

   The portion setting forth the job rotation schedule will indicate the general work activities and tasks that must be mastered as well as the appropriate amount of time to be spent on the set of activities. In terms of related instruction, often the general subtest matter and the approximate amount of time to spend on that subject matter is set forth.

   (b) Examination, Evaluation, and Advancement Procedures

   Usually the standards agreement indicates when and how apprentice progress will be evaulated within the training time. This means the mechanism of formal review, together with the time schedule for such review and the records that will be inspected, will be specified. The review is one way of ensuring periodically that both parties are fulfilling their parts of the agreement.

   (c) Safety

   The standards usually will indicate the specific kinds of safety training and the time when such training will occur. This emphasizes the importance of such training.

   (d) Record keeping

   Standards provide an indication of what records will be maintained and by when concerning your progress in your apprentice term. Progress means time spent in training (on the job and in related instruction); time and skills in various tasks and with various equipment on the job; skills and knowledges required on the job and in the classroom; and attendance.

   Record keeping culminates with the granting of journeyman papers and certificates of completion. The process for requesting and awarding such certificates usually is written into the agreement.

   Record-keeping provisions also usually spell out licensing procedures, roles, and responsibilities.

8. Due Process - Agreements specify the procedures for disciplining apprentices or for recommending cancellation of apprenticeship agreements if they fail to fulfill their obligations. The due process clauses/provisions also explain how disputes and claims about the program, as registered by apprentices, are filed and dealt with. The appeals process is either outlined or listed as a reference. Often the due process sections of the agreement also contain directions for modifying the agreement as well as the rules and regulations for apprenticeship. Modifications sometimes are necessary as the law changes and/or as new technology is introduced into the manufacturing process. For example, many apprenticeship agreements in manufacturing will be modified as computer-assisted design and manufacturing becomes even more widespread across jobs/trades.

GUIDANCE QUESTIONS

(1) What does the Apprenticeship-School Linkage process mean in terms of guidance in career-decision making?

- Students can begin an apprenticeship during their senior year if they have completed graduation requirements.
- All students should be provided with information about a possible apprenticeship-school program early in their high school years in order to complete high school courses and still leave time for an apprenticeship program.
- Mentor has more of a role in helping the student complete the steps toward an apprenticeship while the student is still in high school.

(2) What about "related instruction," what are the parameters, when does it start for a high school student? Each situation will vary according to the resources available. It is the sponsor's responsibility to define the related instruction needed for a specific job. If the student is still in high school, often vocational classes s/he is currently taking can count toward the related instruction requirement. In the Apprenticeship-School Linkage Program, the official related instruction begins after graduation. Agreement and provisions for related instruction is agreed upon between the sponsor and the student and becomes a part of the legal contract signed by both.

(3) Who can I call for information when questions occur with the student, parent, school staff, or employer? A variety of resources is listed in the appendix which should be kept available for easy reference. The Maryland Apprenticeship and Training Council is a good place to start.

(4) How can I increase a student's awareness of apprenticeships as a career option?

Information on apprenticeship options should be an integral part of the guidance program in the school. The following strategies have been used successfully.

- Present apprenticeships as one of the available educational options through guidance sessions for all ninth- or tenth-graders in classroom presentations or small groups in career center.
- Make formal presentations in classes for eleventh-/twelfth-graders followed by a one-to-one interview session with interested students.
- Use other counselors, teachers as a referral source for qualified students.
- Use an apprentice to address prospective apprentices (peer counseling).

- Participate in career days.
- Use community-based organizations as referral sources.
- Address students as early as ninth or tenth grade to "plant the seed" of apprenticeship as an option.

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Introduction To Related Subjects Instruction and Inservice Training
Planning The Apprenticeship Program
Planning Related Subjects Instruction
Developing Instructional Materials For Apprentices
Presenting Information To Apprentices
Directing Learning Activities For Instruction
Providing For Individual Learning Needs
Controlling Instructional Settings
Evaluating Apprentice Performance
Communicating With Apprentices

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APPENDIX A

DEFINITION OF TERMS

1. APPRENTICE: An apprentice is a worker at least 16 years of age, except where a higher minimum age standard is otherwise fixed by law, who is employed to learn a skill trade.

2. APPRENTICEABLE OCCUPATION: A skilled trade which possesses all of the following characteristics:

   - It is customarily learned by practical application through a structural, systematic program of on-the-job supervised training.
   - It is clearly identified and commonly recognized throughout industry.
   - It involves manual, mechanical or technical skills and knowledge which require a minimum of 2,000 hours of on-the-job training.

3. APPRENTICESHIP: Training in a skill with not less than two thousand hours of on-the-job training and related theoretical instruction.

4. APPRENTICESHIP AGREEMENT: An apprenticeship agreement is a written agreement between an apprentice and his employer which contains the terms and conditions of the employment and training of the apprentice. It should provide for not less than 2,000 hours of reasonably continuous employment and for the participation in an approved schedule of work experience through employment which shall be supplemented by a minimum of 144 hours per year of related and supplemental instruction. This agreement is also known as an apprenticeship indenture.

5. APPRENTICESHIP CERTIFICATION: Apprenticeship certification means written approval by the Bureau of Apprenticeship and Training of:

   - A set of apprenticeship standards developed by a national committee organization, joint or unilateral, for policy or guidelines use by local affiliates, as substantially conforming to the standards of apprenticeship.
   - An individual as eligible for probationary employment as an apprentice under a registered apprenticeship program.

6. APPRENTICESHIP REGISTRATION: refers to both the registration of an apprenticeship program and to the registration of an apprentice. Both components of the registration process include involvement of either the Bureau of Apprenticeship Training or the State Apprenticeship Council. The first component is the registration of an apprenticeship program in a specific trade with an employer.

This process involves the approval of a systematic schedule of training in different trade skills provided for an apprentice over the period of the apprenticeship. The second component of a registered apprenticeship is the apprentice registration. Apprentice registration requires an agreement between the employer and the employee to involve the apprentice in the apprenticeship training at specific wages with set periods of wage increments over the period of the apprenticeship.

7. APPRENTICESHIP PROGRAM SPONSOR: An individual employer, a group of employers, or a combination of employers and employee group. or groups, who have undertaken to establish and operate a formalized apprenticeship program to develop skilled craftpersons in apprenticeable occupations.

8. ASSESSMENT: Assessment is a comprehenisve process involving a multifaceted approach to determine an individual's employability developmental needs.

9. BUREAU OF APPRENTICESHIP AND TRAINING (BAT): An agency of the United States Department of Labor that stimulates and assists industry in the development, expansion, and improvement of apprenticeship and training programs. The Bureau's principal functions are to encourage the establishment of sound apprenticeship and training programs and to provide technical assistance to industry in establishing such programs.

10. EMPLOYER: An employer is any person or organization employing an apprentice whether or not such persons or organization is a party to an apprenticeship agreement with the apprentice.

11. JOURNEYPERSON: A worker who has satisfactorily completed his apprenticeship and is classified as a skilled worker in his trade.

12. MARYLAND APPRENTICESHIP AND TRAINING COUNCIL (MATC): This is the state agency for the registration of apprenticeship and training programs for federal purposes pursuant to federal regulations 29 CFR 29 or Labor Standards for Registration of Apprenticeship Programs. Operating under the administrative direction of the Commissioner of Labor and Industry, it is the responsibility of the council to:

    - determine suitable trades and crafts for apprenticeships
    - encourage the development of apprenticeship programs
    - formulate, adopt and register apprenticeship standards to safeguard the welfare of apprentices.

This agency also maintain records of all registered programs and monitors the progress of each registered apprentice.

13. PROBATIONARY PERIOD: All apprentices shall service a probationary trial period. During the probationary period, the apprenticeship agreement may be cancelled at the request of either party. Notice of cancellation of apprenticeship agreement must be given to the Maryland Apprenticeship and Training Council (MATC). After completion of the probationary period, the agreement may be cancelled by the MATC after adequate cause has been shown and all parties to the agreement have had an opportunity to be heard.

14. RATIO: The number of apprentices enrolled in formal training compared to the number of journeypersons in a given area. The MATC requires a three to one ratio:

- three journeypersons to one apprentice
- six journeypersons to two aprentices

Exceptions to ratios must be submitted to MATC in writing and approved by MATC. Exceptions can occur in occupations of demonstrated shortages of training craftspersons to ensure future employability of apprentices.

15. REGISTRATION AGENCY: The federal or state agency responsible for registering apprenticeship programs. The Maryland Apprenticeship and Training Council is the registration agency in Maryland.

16. RELATED INSTRUCTION: Related instruction is an organized and systematic form of instruction designed to provide the apprentice with knowledge of the theoretical and technical subjects related to the selected trade. All registered apprentices are required to attend 144 hours per year of instruction related to the selected trade. Related instruction details must be submitted to the MATC at the time of request for registration of program for council approval.

17. SCHOOL TO WORK TRANSITION: The adjustment processes accompanying the transition from school to full-time employment. The adjustments inherent in this transition may be problematic for some individuals while others may be able to adjust without difficulty. The basic concept implies a status change such as from student to worker; an environmental change, such as from the school setting to the work setting; and developmental changes which begin with the onset of adulthood and the financial and emotional independence characteristic of this stage in life.

18. STANDARDS OF APPRENTICESHIPS: The document which incorporates the procedures for the training of apprentices, setting forth the terms and conditions of employment, training on the job, and related instruction.

19. TRADE ASSOCIATION: A group of firms with similar business or trade interests joined together for the overall advancement of their industry.

20. TRAINING: A planned, systematic sequence of instruction or other learning experience on an individual or group basis under competent supervision, which is designed to impart skills, knowledge, or abilities to individuals.

- classroom - Training conducted in an institutional setting designed to: (a) provide individuals with the technical skills and information required to perform a specific job or group of jobs; or (b) enhance the employability of individuals by upgrading basic skills through the provision of basis and remedial education, English as a second language and GED training.

- hands-on - Training in a protected environment, in the work processes and techniques of a certain trade. Participants use the tools of the trade in a simulated work environment.

- on-the-job-training - Training conducted in a work environment, which provides knowledge or skills essential to the full and adequate performance of the job.

- related - Organized, supplemental, theoretical instruction program to provide apprentices with information on technical subjects related to the trade. May consist of study conducted in a local trade or vocational education institution or of supervised correspondence or self study. A minimum of 144 hours per year of such study is recommended for each apprentice.

21. UNION: The duly recognized contractural bargaining agency for a specific company, trade area, or industrial group, or groups.

22. WORK EXPERIENCE: The time an apprentice spends on-the-job under a journeyperson in supervised learning, step-by-step, through demonstration and practice, the individual work processes of a chosen skilled occupation.

APPENDIX B

FEDERAL, STATE AND LOCAL RESOURCES

Bureau of Apprenticeship and Training Regional Offices:

Region III
Gateway Building
3535 Market Street
P.O. Box 8796
Philadelphia, PA 19101
(Delaware, Maryland, Pennsylvania, Virginia, West Virginia)

Marvland Office
Bureau of Apprenticeship and Training
U.S. Department of Labor
Charles Center - Federal Building - Room 1028
31 Hopkins Plaza
Baltimore, MD 21201
(301) 962-2676

State Apprenticeship Agencies:

Maryland Apprenticeship and Training Council
501 St. Paul Place
Baltimore, MD 21202
(301) 659-4206

Apprenticeship Information Centers:

Maryland
1100 N. Eutaw Street, Room 204
Baltimore, MD 21201
(301) 383-5532

Women's Bureau Regional Offices:

Region III
15230 Gateway Building
3535 Market Street
Philadelphia, PA 19104
(Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia)

APPENDIX C - List of Occupations Meeting the Criteria for Apprenticeability

OCCUPATIONS	DICTIONARY OF OCCUPATIONAL TITLES (DOT) CODE NO.
ACCORDION MAKER (musical inst.)	730.281.010
ACCOUSTICAL CARPENTER (const.)	860.381.010
AIR-CONDITIONING INSTALLER-SERVICER, WINDOW UNIT (any indus.)	637.261-010
AIR-CONDITIONING MECHANIC (auto. serv.) (Automotive Specialty Shops only)	620.281-010
AIRCRAFT-ARMAMENT MECHANIC (gov. serv.)	632.261-010
AIRCRAFT LAY-OUT WORKER (aircraft-aerocpace mfg.)	693.381-010
AIRCRAFT MECHANIC, ARMAMENT (aircraft-aerospace mfg.)	806.381-010
AIRCRAFT MECHANIC, ELECTRICAL AND RADIO (aircraft-aerospace mfg.)	825.381-010
AIRCRAFT MECHANIC, PLUMBING AND HYDRAULICS (aircraft-aerospace mfg.)	862.381-010
AIRCRAFT-PHOTOGRAPHIC-EQUIPMENT MECHANIC (photo. app.)	714.281-010
AIRFRAME-AND-POWER PLANT MECHANIC (aircraft-aerospace mfg.; air trans.)	621.281-014
AIRPLANE COVERER (aircraft-aerospace mfg.; air trans.)	849.381-010
AIRPLANE WOODWORKER (aircraft-aerospace mfg.)	769.281-010
ALARM OPERATOR (gov. serv.)	379.162-010
ANIMAL TRAINER (amuse. & rec.)	159.224-010
ARTIFICIAL-GLASS-EYE MAKER (optical goods)	713.261-010
ARTIFICIAL-PLASTIC-EYE MAKER (optical goods)	713.261.014
ASPHALT-PAVING MACHINE OPERATOR (const.)	853.363-010
ASSEMBLER, AIRCRAFT, POWER PLANT (aircraft-aerospace mfg.)	806.381-022
ASSEMBLER, AIRCRAFT, STRUCTURES AND SURFACES (aircraft-aerospace mfg.)	806.381.026

OCCUPATIONS	DICTIONARY OF OCCUPATIONAL TITLES (DOT) CODE NO.
ASSEMBLER, ELECTRO-MECHANICAL (aircraft-aerospace mfg.)	806.381-030
ASSEMBLER-INSTALLER, GENERAL (aircraft-aerospace mfg.)	806.361-014
ASSEMBLY MECHANIC, EXPERIMENTAL AIRCRAFT (aircraft-aerospace mfg.)	806.381-038
ASSEMBLY TECHNICAN (office machines)	633.261-010
AUDIO OPERATOR (radio & tv broad.)	194.262-010
AUDIO-VIDEO REPAIRER (any indus.)	729.281-010
AUGER PRESS OPERATOR, MANUAL CONTROL (brick & tile)	575.462-010
AUTOMATED EQUIPMENT ENGINEER TECHNICIAN (mach. mfg.)	638.261-010
AUTOMATIC EQUIPMENT TECHNICIAN (tel. & tel.)	822.281-010
AUTOMOBILE-BODY REPAIRER (auto. serv.)	807.381-010
AUTOMOBILE MECHANIC (auto. serv.)	620.261-010
AUTOMOBILE-RADIATOR MECHANIC (auto. serv.) (Automotive Specialty Shops only)	620.381-010
AUTOMOBILE-REPAIR-SERVICE ESTIMATOR (auto. serv.)	620.261-018
AUTOMOBILE TESTER (auto. serv.)	620.261-014
AUTOMOBILE UPHOLSTERER (auto. serv.)	780.381-010
AUTOMOTIVE COOLING SYSTEM DIAGNOSTIC TECHNICIAN (auto. serv.) (Automotive Specialty Shops only)	620.261-580
AUTOMOTIVE-GENERATOR-AND-STARTER REPAIRER (auto. serv.)	721.281-010
AUTOMOTIVE MAINTENANCE EQUIPMENT SERVICER (any indus.)	620.281-018
AVIONICS TECHNICIAN (aircraft-aerospace mfg.; air. trans.)	823.281-010
BAKER (bake. prod.)	526.381-010

OCCUPATIONS	DICTIONARY OF OCCUPATIONAL TITLES (DOT) CODE NO.
BAKER (hotel & rest.)	313.381-010
BAKER, PIZZA (hotel & rest.)	313.381-014
BAKERY-MACHINE MECHANIC (bake. prod.)	629.281-Q10
BANK-NOTE DESIGNER (gov. serv.)	142.061-010
BARBER (pers. serv.)	330.371-010
BATCH-AND-FURNACE OPERATOR (glass mfg.)	572.382-010
BATTERY REPAIRER (any indus.)	727.381-014
BEEKEEPER (agric.)	413.161-010
BENCH HAND (jewelry)	735.381-010
BEN-DAY ARTIST (print. & pub.)	970.681-010
BIOMEDICAL EQUIPMENT TECHNICIAN (inst. & app.; med. serv.)	719.261-010
BLACKSMITH (forging)	610.381-010
BLOCKER-AND-CUTTER, CONTACT LENS (optical goods)	716.681-010
BOATBUILDER, WOOD (ship & boat bldg. & rep.)	860.381-018
BOILERHOUSE MECHANIC (any indus.)	805.361-010
BOILERHOUSE FITTER (boiler making)	805.361-014
BOILERMAKER I (boilermaking)	805.261-014
BOILERMAKER II (boilermaking)	805.381-010
BOILER OPERATOR (any indus.)	950.382-010
BOOKBINDER (print. & pub.)	977.381-010
BOOTMAKER, HAND (rubber goods)	753.381-010
BRACELET AND BROOCE MAKER (jewelry)	735.681-010
BRAKE REPAIRER (auto. serv.)	620.281-026
BRICKLAYER (brick & tile)	861.381-014
BRICKLAYER (const.)	861.381-018
BRICKLAYER, FIREBRICK AND REFRACTORY TILE (const.)	861.381-026

OCCUPATIONS	DICTIONARY OF OCCUPATIONAL TITLES (DOT) CODE NO.
BRILLIANDEER-LOPPER (jewelry)	770.261-010
BUTCHER, ALL AROUND (slaughter & meat packing)	525.381-014
BUTCHER, MEAT (hotel & rest.)	316.681-010
BUTTERMAKER (dairy prod.)	529.362-010
CABINETMAKER (woodworking)	660.280-010
CABLE INSTALLER-REPAIRER (light, heat, & power)	821.361-010
CABLE SPLICER (const.; light, heat, power; tel. & tel.)	829.361-010
CABLE TESTER (tel. & tel.)	822.361-010
CALIBRATION LABORATORY TECHNICIAN (aircraft-aerospace mfg.; electronics)	019.281-010
CAMERA REPAIRER (photographic app.)	714.281-014
CANAL-EQUIPMENT MECHANIC (waterworks)	899.281-010
CANDY MAKER (confec.)	529.361-014
CANVAS WORKER (canvas goods; ship & boat bldg. & rep.)	739.381.010
CAR REPAIRER (loco. & car bldg. & rep.)	622.381.014
CARBURETOR MECHANIC (auto. serv.)	620.281-034
CARD CUTTER, JACQUARD (narrow fabric; textile)	683.582-010
CARD GRINDER (asbestos prod.; textile)	680.380-010
CARPENTER (const.)	860.381-022
CARPENTER, MAINTENANCE (any indus.)	860.281-010
CARPENTER, MOLD (brick & tile; conc. prod.)	860.381-034
CARPENTER, ROUGH (const.)	860.381-042
CARPENTER, SHIP (water trans.)	860.281-014
CARPET CUTTER (ret. tr.)	929.381-010
CARPET LAYER (ret. tr.)	864.381-010

OCCUPATIONS	DICTIONARY OF OCCUPATIONAL TITLES (DOT) CODE NO.
CARVER, HAND (furn.; plan. mill)	761.281-010
CASH-REGISTER SERVICER (any indus.)	633.281-010
CASING-IN-LINE SETTER (print. & pub.)	653.360-010
CASKET ASSEMBLER (mort. goods)	739.481-010
CASTER (jewelry)	502.381-010
CASTER (nonfer. metal alloys)	502.482-010
CELL MAKER (chem.)	844.681-010
CEMENT MASON (const.)	844.364-010
CENTRAL-OFFICE INSTALLER (tel. & tel.)	822.361-014
CENTRAL-OFFICE REPAIRER (tel. & tel.)	822.281-014
CHASER (jewelry; silverware)	704.381-010
CHEESEMAKER (dairy prod.)	529.361-018
CHEMICAL-ENGINEERING TECHNICIAN (profess. & kind.)	008.261-010
CHEMICAL LABORATORY TECHNICIAN (profess. & kind.)	022.261-010
CHEMICAL OPERATOR III (chem.)	559.382-018
CHIEF OF PARTY (profess. & kind.)	018.167-010
CHIEF OPERATOR (chem.)	558.260-010
CIVIL ENGINEER (profess. & kind.)	005.061-014
CLARIFYING-PLANT OPERATOR (textile)	955.382-010
CLOTH DESIGNER (profess. & kind.)	142.061-014
COIN-MACHINE-SERVICE REPAIRER (coin mach.)	639.281-014
COLORIST, PHOTOGRAPHY (photofinish)	970.381-010
COMMERCIAL DESIGNER (profess. & kind.)	141.081-014
COMPLAINT INSPECTOR (light, heat, & power)	829.261-010
COMPOSING-ROOM MACHINIST (print. & pub.)	627.261-010

OCCUPATIONS	DICTIONARY OF OCCUPATIONAL TITLES (DOT) CODE NO.
COMPOSITOR (print. & pub.)	973.381-010
COMPUTER-PERIPHERAL-EQUIPMENT OPERATOR (clerical)	213.382-010
CONSTRUCTION-EQUIPMENT MECHANIC (const.)	620.261-022
CONTOUR WIRE SPECIALIST, DENTURE (medical serv.)	712.381-014
CONVEYOR-MAINTENANCE MECHANIC (any indus.)	630.381-010
COOK (any indus.)	315.361-010
COOK (hotel & rest.)	313.361-014
COOK, PASTRY (hotel & rest.)	313.381-026
COPPERSMITH (ship & boat bldg. & rep.)	862.281-010
COREMAKER (foundry)	518.381.014
CORK INSULATOR, REFRIGERATION PLANT (const.)	863.381-010
CORROSION-CONTROL FITTER (light, heat, & power; pipe lines)	820.361-010
COSMETOLOGIST (pers. serv.)	332.271-010
CUSTOM TAILOR (garment; pers. serv.; ret. tr.)	785.261-014
CUTTER, FABRICS AND MATERIALS (aircraft-aerospace mfg.)	781.384-010
CYLINDER GRINDER (print. & pub.)	500.381-010
CYLINDER-PRESS OPERATOR (print. & pub.)	651.362-010
DAIRY EQUIPMENT REPAIRER (dairy prod.)	629.281-018
DECORATOR (any indus.)	298.381-010
DECORATOR (glass mfg.; glass prod.)	740.381-010
DENTAL ASSISTANT (medical serv.)	079.371-010
DENTAL CERAMIST (medical serv.)	712.281-010
DENTAL-EQUIPMENT INSTALLER-SERVICER (whole. tr.)	829.261-014
DENTAL LABORATORY TECHNICIAN (medical serv.)	712.381-018

OCCUPATIONS	DICTIONARY OF OCCUPATIONAL TITLES (DOT) CODE NO.
DESIGN DRAFTER, ELECTROMECHANISMS (profess. & kind.)	017.261-014
DESIGNER AND PATTERNMAKER (boot & shoe)	788.281-010
DETAILER (profess. & kind.)	017.261-018
DIAMOND SELECTOR (jewelry)	770.281-010
DICTATING-TRANSCRIBING-MACHINE SERVICER (any indus.)	633.281-014
DIE DESIGNER (mach. shop)	007.161-010
DIE FINISHER (mach. shop)	601.381-010
DIE MAKER (jewelry)	601.381-014
DIE MAKER (paper goods)	739.381-018
DIE MAKER, BENCH STAMPING (mach. shop)	601.281-010
DIE MAKER, STAMPING (mach. shop)	601.280-010
DIE MAKER, TRIM (mach. shop)	601.280-014
DIE MAKER, WIRE DRAWING (mach. shop)	601.280-018
DIE POLISHER (wire)	601.381-018
DIESEL-ENGINE TESTER (engine & turbine)	625.261-010
DIESEL MECHANIC (any indus.)	625.281-010
DIE SETTER (forging)	612.360-010
DIE SINKER (mach. shop)	601.280-022
DIETETIC INTERN (profess. & kind.)	077.167-010
DIRECTOR, FUNERAL (pers. serv.)	187.167-030
DISPLAY DESIGNER (profess. & kind.)	142.051-010
DISPLAYER, MERCHANDISE (ret. tr.)	298.081-010
DOOR-CLOSER MECHANIC (any indus.)	630.381-014
DRAFTER, ARCHITECTURAL (profess. & kind.)	001.261-010
DRAFTER, AUTOMOTIVE DESIGN (auto. mfg.)	017.281-022

OCCUPATIONS	DICTIONARY OF OCCUPATIONAL TITLES (DOT) CODE NO.
DRAFTER, AUTOMOTIVE DESIGN LAY-OUT (auto. mfg.)	017.281-026
DRAFTER, CARTOGRAPHIC (profess. & kind.)	018.261-010
DRAFTER, CIVIL (profess. & kind.)	005.281-010
DRAFTER, COMMERCIAL (profess. & kind.)	017.261-026
DRAFTER, DETAIL (profess. & kind.)	017.261-030
DRAFTER, ELECTRICAL (profess. & kind.)	003.281-010
DRAFTER, ELECTRONIC (profess. & kind.)	003.281-014
DRAFTER, HEATING AND VENTILATING (profess. & kind.)	017.261-034
DRAFTER, LANDSCAPE (profess. & kind.)	001.261-014
DRAFTER, MARINE (profess. & kind.)	014.281-010
DRAFTER, MECHANICAL (profess. & kind.)	007.281-010
DRAFTER, PLUMBING (profess. & kind.)	017.261-038
DRAFTER, STRUCTURAL (profess. & kind.)	005.281-014
DRAFTER, TOOL DESIGN (profess. & kind.)	007.261-022
DRAFTER, TOPOGRAPHICAL (profess. & kind.)	018.261-014
DRAGLINE OPERATOR (any indus.)	850.683-018
DREDGE OPERATOR (const.; mining & quarrying)	850.663-010
DRESSMAKER (any indus.)	785.361-010
DRILLING-MACHINE OPERATOR (mining & quarrying)	930.482-010
DRY CLEANER (clean; dye & press.)	362.382-014
DRY-WALL APPLICATOR (const.; mfd. bldgs.)	842.681-010
EDITOR, FILM (motion pic.; radio & tv broad.)	962.264-010
ELECTRICAL-APPLIANCE REPAIRER (any indus.)	723.381-010
ELECTRICAL-APPLIANCE SERVICER (any indus.)	827.261-010

OCCUPATIONS	DICTIONARY OF OCCUPATIONAL TITLES (DOT) CODE NO.
ELECTRICAL-INSTRUMENT REPAIRER (any indus.)	729.281-026
ELECTRICAL REPAIRER (any indus.)	829.281-014
ELECTRICAL TECHNICIAN (profess. & kind.)	003.161-010
ELECTRIC-DISTRIBUTION CHECKER (const.; light, heat, & power)	824.281-014
ELECTRICIAN (any indus.)	824.261-010
ELECTRICIAN (ship & boat bldg. & rep.)	825.381-030
ELECTRICIAN (water trans.)	825.281-014
ELECTRICIAN, AIRPLANE (aircraft-aerospace mfg.)	825.281-018
ELECTRICIAN, AUTOMOTIVE (auto. serv.)	825.281-022
ELECTRICIAN, LOCOMOTIVE (loco. & car bldg. & rep.)	825.281-026
ELECTRICIAN, POWERHOUSE (light, heat, & power)	820.261-014
ELECTRICIAN, RADIO (any indus.)	823.281-014
ELECTRICIAN, SUBSTATION (light, heat, & power)	820.261-018
ELECTRIC-METER INSTALLER I (light, heat & power)	821.361-014
ELECTRIC-METER REPAIRER (light, heat, & power)	729.281-014
ELECTRIC-METER TESTER (light, heat, & power)	821.381-010
ELECTRIC-MOTOR-AND-GENERATOR ASSEMBLER (elec. equip.)	820.361-014
ELECTRIC-MOTOR ASSEMBLER AND TESTER (any indus.)	721.281-014
ELECTRIC-MOTOR REPAIRER (any indus.)	721.281-018
ELECTRIC-TOOL REPAIRER (any indus.)	729.281-022
ELECTRIC-TRACK-SWITCH MAINTAINER (rr. trans.)	825.261-010
ELECTROMECHANICAL TECHNICIAN (inst. app.)	710.281-018
ELECTROMEDICAL-EQUIPMENT REPAIRER (any indus.)	729.281-030
ELECTRONIC-ORGAN TECHNICIAN (any indus.)	828.261-010

OCCUPATIONS	DICTIONARY OF OCCUPATIONAL TITLES (DOT) CODE NO.
ELECTRONIC-PRODUCTION-LINE-MAINTENANCE MECHANIC (electronics)	629.281-022
ELECTRONIC-SALES-AND-SERVICE TECHNICIAN (profess. & kind.)	828.251-010
ELECTRONICS MECHANIC (any indus.)	828.281-010
ELECTRONICS TECHNICIAN (profess. & kind.)	003.161-014
ELECTRONICS TESTER I (electronics)	726.281-014
ELECTRONICS UTILITY WORKER (electronics)	726.361-010
ELECTROTYPER (print. & pub.)	974.381-010
ELEVATING-GRADER OPERATOR (const.)	850.663-014
ELEVATOR CONSTRUCTOR (const.)	825.361-010
ELEVATOR REPAIRER (any indus.)	825.281-030
EMBALMER (pers. serv.)	338.371-014
EMBOSSER (print. & pub.)	659.382-010
EMERGENCY MEDICAL TECHNICIAN (medical serv.)	079.374-010
ENGINEERING ASSISTANT, MECHANICAL EQUIPMENT (profess. & kind.)	007.161-018
ENGINEERING MODEL MAKER (inst. & app.)	600.260-010
ENGINE-LATHE SET-UP OPERATOR (mach. shop)	604.380-018
ENGINE-LATHE SET-UP OPERATOR, TOOL (mach. shop)	604.280-010
ENGINE REPAIRER, SERVICE (engine & turbine)	625.281-018
ENGINE TURNER (jewelry)	704.381-018
ENGRAVER (glass prod.; mirror)	775.381-010
ENGRAVER I (print. & pub.)	979.381-010
ENGRAVER, BLOCK (print. & pub.)	979.281-014
ENGRAVER, HAND, HARD METALS (engraving)	704.381-026
ENGRAVER, HAND, SOFT METALS (engraving)	704.381-030

OCCUPATIONS	DICTIONARY OF OCCUPATIONAL TITLES (DOT) CODE NO.
ENGRAVER, MACHINE (print. & pub.)	979.382-014
ENGRAVER, PANTOGRAPHI I (engraving)	704.382-010
ENGRAVER, PICTURE (print. & pub.)	979.281-018
ENGRAVING-PRESS OPERATOR (print. & pub.)	651.382-010
ENVELOPE-FOLDING-MACHINE ADJUSTER (paper goods)	641.680-010
ENVIRONMENTAL-CONTROL SYSTEM INSTALLER-SERVICER (Residential & Light Commercial) (any indus.)	637.261-014
EQUIPMENT INSTALLER (tel. & tel.)	822.381-010
ESTIMATOR AND DRAFTER (light, heat, & power)	019.261-014
ETCHER, HAND (print. & pub.)	971.261-010
ETCHER, PHOTENGRAVING (print. & pub.)	971.381-014
EXPERIMENTAL ASSEMBLER (any indus.)	739.381-026
EXPERIMENTAL MECHANIC (motor & bicycles)	600.260-014
EXTRUDER OPERATOR (fabric. plastics prod.; plastics mat.)	557.382-010
FABRICATOR-ASSEMBLER, METAL PRODUCTS (any indus.)	809.381-010
FARM EQUIPMENT MECHANIC I (agric. equip.)	624.281-010
FARM EQUIPMENT MECHANIC II (agric. equip.)	624.381-014
FARMER, GENERAL (agric.)	421.161-010
FASTENER TECHNOLOGIST (nut & bolt)	612.260-684
FIELD ENGINEER (radio & tv broad.)	193.262-018
FILM DEVELOPER (motion pic.; photofinish)	976.382-018
FILM LABORATORY TECHNICIAN I (motion pic.)	976.381-010
FINISHER, DENTURE (medical serv.)	712.681-018
FIRE-CONTROL MECHANIC (gov. serv.)	632.261-014
FIRE FIGHTER (any indus.)	373.664-010

OCCUPATIONS	DICTIONARY OF OCCUPATIONAL TITLES (DOT) CODE NO.
FIRE FIGHTER, CRASH, FIRE AND RESCUE (air trans.)	373.663-010
FIRE MEDIC (medical serv.)	373.364-014
FIRER, KILN (pottery & porc.)	573.662-010
FITTER (mach. shop)	801.381-014
FITTER I (any indus.)	801.261-014
FIXTURE MAKER (light fix.)	600.380-010
FLOOR-COVERING LAYER (loco. & car bldg. & rep.)	622.381-026
FLOOR LAYER (const.; ret. tr.)	864.481-010
FLORAL DESIGNER (ret. tr.)	142.081-010
FOLDING-MACHINE OPERATOR (print. & pub.)	653.382-010
FOLDING-MACHINE SETTER (print. & pub.)	653.360-014
FORGE-SHOP-MACHINE REPAIRER (forging)	626.261-010
FORGING-PRESS OPERATOR I (forging)	611.428-010
FORM BUILDER (aircraft-aerospace mfg.)	693.280-010
FORM BUILDER (const.)	860.381-046
FORMER, HAND (any indus.)	619.361-010
FORMING-MACHINE OPERATOR (glass mfg.)	575.382-014
FOUNDRY METALLURGIST (foundry)	011.061-010
FOURDRINIER-MACHINE TENDER (build. board; paper & pulp)	539.362-014
FOUR-SLIDE-MACHINE SETTER (any indus.)	616.380-010
FREEZER OPERATOR (dairy prod.)	529.482-010
FRETTEED-INSTRUMENT REPAIRER (any indus.)	730.281-026
FRONT-END MECHANIC (auto. serv.)	620.281-038
FUEL-INJECTION SERVICER (any indus.)	625.281-022
FUR CUTTER (fur goods)	783.381-010

OCCUPATIONS	DICTIONARY OF OCCUPATIONAL TITLES (DOT) CODE NO.
FUR DESIGNER (fur goods)	142.081-014
FUR FINISHER (fur goods)	783.381-014
FURNACE INSTALLER (light, heat, & power)	862.361-010
FURNACE-INSTALLER AND REPAIRER, HOT AIR (any indus.)	869.281-010
FURNACE OPERATOR (found.; iron & steel)	512.362-018
FURNITURE DESIGNER (furn.)	142.061-022
FURNITURE FINISHER (woodworking)	763.381-010
FURNITURE UPHOLSTERER (any indus.)	780.381-018
FURRIER (fur goods)	783.261-010
GAGER (petrol. prod.; petrol refin.; pipe lines)	914.384-010
GANG SAWYER, STONE (stonework)	670.362-010
GAS-APPLIANCE SERVICER (any indus.)	637.261-018
GAS-ENGINE REPAIRER (any indus.)	625.281-026
GAS-MAIN FITTER (light, heat & power)	862.361-014
GAS-METER MECHANIC I (light, heat & power)	710.381-022
GAS-REGULATOR REPAIRER (light, heat & power petrol. refin.; pipe lines)	710.381-026
GEAR-CUTTING-MACHINE SET-UP OPERATOR (mach. shop)	602.380-010
GEAR-CUTTING-MACHINE SET-UP OPERATOR, TOOL (mach. shop)	602.280-010
GEAR HOBBER, SET-UP OPERATOR (mach. shop)	602.382-010
GEM CUTTER (jewelry)	770.281-014
GENERAL MANAGER, FARM (agric.; whole. tr.)	180.167-018
GEODETIC COMPUTER (profess. & kind.)	018.167-014
GLASS BENDER (signs)	772.381-010
GLASS BLOWER (glass mfg.)	772.681-010

OCCUPATIONS	DICTIONARY OF OCCUPATIONAL TITLES (DOT) CODE NO.
GLASS BLOWER, LABORATORY APPARTUS (glass prod.; inst. & app.)	772.281-010
GLASS BLOWING-LATHE OPERATOR (glass prod.)	772.482-010
GLAZIER (const.)	865.381-010
GLAZIER, STAINED GLASS (glass prod.)	779.381-010
GRAPHIC DESIGNER (profess. & kind.)	141.061-018
GRINDER I (clock & watch)	6C3.482-030
GRINDER OPERATOR, TOOL (mach. shop)	603.280-018
GRINDER SET-UP OPERATOR, UNIVERSAL (mach. shop)	603.280-030
GUNSMITH (any indus.)	632.281-010
HARNESS MAKER (leather prod.; ret. tr.)	783.381-018
HARPSICHORD MAKER (musical inst.)	730.281-034
HAT-BLOCK MAKER (woodworking)	661.381-010
HEAT-TRANSFER TECHNICIAN (profess. & kind.)	007.181-010
HEAT TREATER I (heat treat.)	504.382-014
HEAVY FORGER (forging)	612.361-010
HORSESHOER (agric.)	418.381-010
HORTICULTURIST (profess. & kind.)	040.061-038
HYDRAULIC-PRESS SERVICER (ammunition)	626.381-018
HYDROELECTRIC-MACHINERY MECHANIC (light, heat, & power)	631.261.010
HYDROELECTRIC-STATION OPERATOR (light, heat, & power)	952.362-018
HYDROMETER CALIBRATOR (inst. & app.)	710.381-030
ILLUSTRATOR (profess. & kind.)	141.061-022
INDUSTRIAL ENGINEERING TECHNICIAN (profess. & kind.)	012.267-010
INJECTION-MOLDING MACHINE OPERATOR (fabric. plastics prod.)	556.382-014

OCCUPATIONS	DICTIONARY OF OCCUPATIONAL TITLES (DOT) CODE NO.
INSPECTOR, MECHANICAL AND ELECTRICAL (inst. & app.)	710.381-038
INSPECTOR, QUALITY ASSURANCE (gov. serv.)	168.287-014
INSTRUMENTATION TECHNICIAN (profess. & kind.)	003.261-010
INSTRUMENT MAKER (any indus.)	600.280-010
INSTRUMENT MAKER AND REPAIRER (petrol. prod.)	600.280-014
INSTRUMENT MECHANIC (any indus.)	710.281-026
INSTRUMENT MECHANIC, WEAPONS SYSTEM (inst. & app.)	711.281-014
INSTRUMENT REPAIRER (any indus.)	710.261-010
INSTRUMENT TECHNICIAN (light, heat, & power)	710.281-030
INSULATION WORKER (const.)	863.364-580
INTERIOR DESIGNER (profess. & kind.)	142.051-014
JACQUARD-LOOM WEAVER (textile)	683.662-010
JACQUARD-PLATE MAKER (knit goods)	685.381-010
JEWELER (jewelry)	700.281-010
JIG BUILDER (wood. box)	761-381-014
JOB PRINTER (print. & pub.)	973.381-018
JOB SETTER (fabric plastics prod.; mach. mfg.; mach. shop)	600.380-014
JOINER (ship & boat bldg. & rep.)	860.381-050
KICK PRESS SETTER (button)	617.380-010
KILN OPERATOR (woodworking)	563.382-010
KNITTER MECHANIC (knit goods)	685.360-010
KNITTING MACHINE FIXER (hosiery; knit goods)	689.280-014
LABORATORY ASSISTANT (light, heat, & power)	029.361-018
LABORATORY TECHNICIAN (auto. mfg.)	019.381-010

OCCUPATIONS	DICTIONARY OF OCCUPATIONAL TITLES (DOT) CODE NO.
LABORATORY TESTER (any indus.)	029.261-010
LANDSCAPE GARDNER (agric.)	408.161-010
LAND SURVEYOR (profess. & kind.)	018.167-018
LAST-MODEL MAKER (lasts & rel. forms)	761.381-018
LATHER (const.)	842.361-010
LAUNDRY-MACHINE MECHANIC (laund.)	629.261.010
LAY-OUT TECHNICIAN (optical goods)	716.381-014
LAY-OUT WORKER I (any indus.)	809.281-010
LEAD BURNER (welding)	819.281-010
LEATHER-STAMPER (leather prod.)	781.381-018
LEGAL SECRETARY (clerical)	201.362-010
LETTERER (profess. & kind.)	970.661-014
LIGHT TECHNICIAN (motion pic.; radio & tv broad.)	962.362-014
LINE ERECTOR (const.; light, heat, & power)	821.361-018
LINE INSTALLER-REPAIRER (tel. & tel.)	822.381-014
LINE MAINTAINER (any indus.)	821.261-014
LINER (pottery & porc.)	740.681-010
LINE REPAIRER (light, heat & power)	821.361-026
LINOTYPE OPERATOR (print. & pub.)	650.582-010
LITHOGRAPHIC PLATE MAKER (print. & pub.)	972.381-010
LITHOGRAPHIC-PRESS OPERATOR, TINWARE (tinware)	651-382-014
LIVESTOCK RANCHER (agric.)	410.161-018
LOCKSMITH (any indus.)	709.281-010
LOCOMOTIVE ENGINEER (rr. trans.)	910.363-014
LOFT WORKER (ship & boat bldg. & rep.)	661.281-010
LOGGING-EQUIPMENT MECHANIC (logging)	620.281-042

OCCUPATIONS	DICTIONARY OF OCCUPATIONAL TITLES (DOT) CODE NO.
LOOM FIXER (asbestos prod.; narrow fab.; textile)	683.260-018
MACHINE ASSEMBLER (mach. mfg.)	638.361-010
MACHINE BUILDER (mach. mfg.; mach. tool & access.)	600.281-022
MACHINE FIXER (carpet & rug)	628.281-010
MACHINE FIXER (textile)	689.260-010
MACHINE OPERATOR I (any indus.)	616.360-018
MACHINE REPAIRER, MAINTENANCE (any indus.)	626.281-010
MACHINERY ERECTOR (engine & turbine; mach. mfg.)	638.261-014
MACHINE SETTER (any indus.)	616.360-022
MACHINE SETTER (clock & watch)	600.380-022
MACHINE SETTER (woodworking)	669.280-010
MACHINE SET-UP OPERATOR (elec. equip.; firearms; mach. shop)	600.380-018
MACHINE SET-UP OPERATOR, PAPER GOODS (paper goods)	649.380-010
MACHINE TRY-OUT SETTER (mach. tool & access.)	600.360-010
MACHINIST (mach. shop)	600.280-022
MACHINIST, AUTOMOTIVE (auto serv.)	600.280-034
MACHINIST, EXPERIMENTAL (mach. shop)	600.280-038
MACHINIST, LINOTYPE (print. & pub.)	627.261-022
MACHINIST, MARINE ENGINE (ship & boat bldg. & rep.)	623.281-026
MACHINIST, MOTION-PICTURE EQUIPMENT (motion pic.; photo. app.)	714.281-018
MACHINIST, OUTSIDE (ship & boat bldg. & rep.)	623.281-030
MACHINIST, WOOD (woodworking)	669.380-014
MAINTENANCE MACHINIST (any indus.)	600.280-042
MAINTENANCE MECHANIC (any indus.)	638.281-014

OCCUPATIONS	DICTIONARY OF OCCUPATIONAL TITLES (DOT) CODE NO.
MAINTENANCE MECHANIC (const.; petrol. prod.; pipe lines)	620.281-046
MAINTENANCE MECHANIC (grain & feed mill)	629.281-030
MAINTENANCE MECHANIC, COMPRESSED-GAS PLANT (comp. & liquefied gases)	630.261-010
MAINTENANCE MECHANIC, TELEPHONE (any indus.)	822.281-018
MAINTENANCE REPAIRER, BUILDING (any indus.)	899.381-010
MAINTENANCE REPAIRER, FACTORY OR MILL (any indus.)	899.281-014
MANUFACTURER'S REPRESENTATIVE (whole. tr.)	279.157-010
MARBLE SETTER (const.)	861.381-030
MATERIAL COORDINATOR (clerical)	221.167-014
MECHANIC, AIRCRAFT ACCESSORIES (aircraft-aerospace mfg.)	621.381-014
MECHANICAL-ENGINEERING TECHNICIAN (profess. & kind.)	007.161-026
MECHANICAL-UNIT REPAIRER (auto. serv.; loco. & car bldg. & rep.)	620.381-018
MECHANIC, ENDLESS TRACK VEHICLE (auto serv.)	620.381-014
MECHANIC, FIELD AND SERVICE (aircraft-aerospace mfg.)	621.281-026
MECHANIC, INDUSTRIAL TRUCK (any indus.)	620.281-050
MEDICAL-APPARATUS MODEL MAKER (inst. & app.)	712.261-010
MEDICAL LABORATORY TECHNICIAN (medical serv.)	078.381-014
MEDICAL SECRETARY (medical serv.)	201.362-014
METAL FABRICATOR (any indus.)	619.360-014
METEOROLOGICAL EQUIPMENT REPAIRER (any indus.)	823.281-018
METEOROLOGIST (profess. & kind.)	025.062-010
METER REPAIRER (any indus.)	710.281-034
MILLER, WET PROCESS (corn prod.)	521.662-010

OCCUPATIONS	DICTIONARY OF OCCUPATIONAL TITLES (DOT) CODE NO.
MILLING-MACHINE SET-UP OPERATOR I (mach. shop)	605.280-010
MILLWRIGHT (any indus.)	638.281-018
MINE-CAR REPAIRER (mining & quarrying)	622.381-030
MINER I (mining & quarrying)	939.281-010
MOCK-UP BUILDER (aircraft-aerospace mfg.)	693.381-014
MODEL AND MOLD MAKER (brick & tile)	777.381-014
MODEL AND MOLD MAKER, PLASTER (conc. prod.)	777.381-018
MODEL BUILDER (furn.)	709.381-014
MODEL MAKER (aircraft-aerospace mfg.)	693.361-010
MODEL MAKER (clock & watch)	693.380-010
MODEL MAKER (jewelry)	709.381-018
MODEL MAKER (pottery porc.)	777.281-014
MODEL MAKER, FIREARMS (firearms)	600.260-018
MODEL MAKER, WOOD (any indus.)	661.380-010
MOLDER (foundry)	518.361-010
MOLDER, PATTERN (foundry)	693.381-022
MOLD MAKER (pottery & porc.)	777.681-010
MOLD MAKER I (jewelry)	700.381-034
MOLD MAKER II (jewelry)	777.381-022
MOLD MAKER, DIE CASTING & PLASTIC MOLDING (mach. shop)	601.280-030
MOLD SETTER (fabric, plastics prod.; phonograph)	556.380-010
MONOTYPE-KEYBOARD OPERATOR (print. & pub.; type founding)	650.582-014
MONUMENT SETTER (const.)	861.361-014
MOSAIC WORKER (glass prod.; stat. & art goods)	779.381-014
MOTORBOAT MECHANIC (engine & turbine; ship & boat bldg. & rep.)	623.281-038

OCCUPATIONS	DICTIONARY OF OCCUPATIONAL TITLES (DOT) CODE NO.
MOTORCYCLE REPAIRER (auto. serv.)	620.281-054
MOTOR-GRADER OPERATOR (const.)	850.663-022
MULTI-OPERATION-FORMING MACHINE SETTER (any indus.)	616.260-014
MULTI-OPERATION-MACHINE OPERATOR (any indus.)	612.462-010
NEON-SIGN SERVICER (signs)	824.281-018
NUMERICAL-CONTROL-MACHINE OPERATOR (mach. shop)	609.662-010
OFFICE-MACHINE SERVICER (any indus.)	633.281-018
OFFSET-PLATE MAKER (print. & pub.)	971.381-018
OFFSET-PRESS OPERATOR I (print. & pub.)	651.482-010
OIL-BURNER-SERVICER AND INSTALLER (any indus.)	862.281-018
OIL-FIELD EQUIPMENT MECHANIC (petrol. prod.)	629.381-014
OPTICAL-INSTRUMENT ASSEMBLER (optical goods)	711.381-010
OPTICIAN (optical goods)	716.280-008
OPTICIAN (optical goods; ret. tr.)	716.280-014
OPTICIAN, DISPENSING I (ret. tr.)	713.361-014
OPTICIAN, DISPENSING II (ret. tr.)	299.474-010
OPTOMECHANICAL TECHNICIAN (optical goods; photo. app.)	007.161-030
ORDINANCE ARTIFICER (gov. serv.)	632.261-018
ORNAMENTAL-IRON WORKER (const.)	809.381-022
ORNAMENTAL-METAL WORKER (fabric, metal prod., not elsewhere classified)	619.260-008
ORTHODONTIC TECHNICIAN (medical serv.)	712.381-030
ORTHOPEDIC-BOOT-AND SHOE DESIGNER AND MAKER (boot & shoe; pers. protec. medical dev.)	788.261-010
ORTHOTICS TECHNICIAN (pers. protec.; medical dev.)	712.381-034

OCCUPATIONS	DICTIONARY OF OCCUPATIONAL TITLES (DOT) CODE NO.
ORTHOTIST (pers. protec.; medical dev.)	078.261-018
OUTBOARD-MOTOR MECHANIC (engine & turbine)	623.281-042
OUTSIDE PRODUCTION INSPECTOR (aircraft-aerospace mfg.)	806.281-046
OVERHAULER (textile)	628.261-010
PAINTER (const.)	840.381-010
PAINTER, HAND (any indus.)	970.381-022
PAINTER, SHIPYARD (ship & boat bldg. & rep.)	840.381-018
PAINTER, SIGN (any indus.)	970.381-026
PAINTER, TRANSPORTATION EQUIPMENT (aircraft-aerospacce mfg.; air trans; auto serv.)	845.381-014
PANTOGRAPH-MACHINE SET-UP OPERATOR (mach. shop)	605.382-022
PAPERHANGER (const.)	841.381-010
PASTE-UP COPY-CAMERA OPERATOR (print. & pub.)	979.381-018
PATTERNMAKER (furn.; garment; tex. prod.; not elsewhere classified)	781.381-026
PATTERNMAKER (spring)	693.281-014
PATTERNMAKER (stonework)	703.381-010
PATTERNMAKER, METAL (foundry)	600.280-050
PATTERNMAKER, METAL BENCH (foundry)	693.281-018
PATTERNMAKER, PLASTER (aircraft-aerospace mfg.)	777.381-030
PATTERNMAKER, PLASTICS (fabric. plastics prod.)	754.381-014
PATTERNMAKER, WOOD (foundry)	661.281-022
PHOTOCOMPOSING-PERFORATOR-MACHINE OPERATOR (print & pub.)	203.582-042
PHOTOENGRAVER (print. & pub.)	971.381-022
PHOTOENGRAVER, FINISHER (print. & pub.)	971.381-030
PHOTOENGRAVING PRINTER (print. & pub.)	971.381-034

OCCUPATIONS	DICTIONARY OF OCCUPATIONAL TITLES (DOT) CODE NO.
PHOTOENGRAVING PROOFER (print. & pub.)	971.381-038
PHOTOGRAMMETRIST (profess. & kind.)	018.261-026
PHOTOGRAPHER, LITHOGRAPHIC (print. & pub.)	972.382-014
PHOTOGRAPHER, MOTION PICTURE (profess. & kind.)	143.062-022
PHOTOGRAPHER, PHOTOENGRAVING (electronics; print. & pub.)	971.382-014
PHOTOGRAPHER, STILL (profess. & kind.)	143.062-030
PHOTOGRAPHIC EQUIPMENT MAINTENANCE TECHNICIAN (photo. app.)	714.281-026
PHOTOGRAPHIC EQUIPMENT TECHNICIAN (photo. app.)	714.281-022
PHOTOGRAPHIC-PLATE MAKER (electronics)	714.381-018
PHOTOGRAPH RETOUCHER (photofinish)	970.281-018
PIANO TECHNICIAN (any indus.)	730.281-038
PIANO TUNER (any indus.)	730.361-010
PINSETTER ADJUSTER, AUTOMATIC (sports equip.)	829.381-010
PIPE COVERER AND INSULATOR (ship & boat bldg. & rep.)	863.381-014
PIPEFITTER (const.)	862.381-018
PIPEFITTER (ship & boat bldg. & rep.)	862.261-010
PIPE ORGAN BUILDER (musical inst.)	730.281-042
PIPE ORGAN TUNER AND REPAIRER (any indus.)	730.361-014
PLANT OPERATOR, FURNACE PROCESS (bone, carbon, lampblack)	559.362-026
PLASTERER (const.)	842-361-018
PLASTER-PATTERN CASTER (aircraft-aerospace mfg.; mach. tools & access.)	777.381-038
PLASTIC-FIXTURE BUILDER (mach. shop)	601.381-030
PLASTICS BENCH MECHANIC (aircraft-aerospace mfg.; fabric plastics prod.)	754.381-018

OCCUPATIONS	DICTIONARY OF OCCUPATIONAL TITLES (DOT) CODE NO.
PLASTIC TOOL MAKER (mach. shop)	601.381-026
PLATE FINISHER (print. & pub.)	659.360-010
PLATEN-PRESS OPERATOR (print. & pub.)	651.362-018
PLATER (electroplating)	500.380-010
PLUMBER (const.)	862.381-030
PNEUMATIC TESTER AND MECHANIC (aircraft-aerospace mfg.)	621.381-022
PNEUMATIC-TOOL REPAIRER (any indus.)	630.281-010
PNEUMATIC-TUBE REPAIRER (any indus.)	630-281-014
PODIATRIC ASSISTANT (medical serv.)	079.374-018
POTTERY-MACHINE OPERATOR (pottery & porc.)	774.382-010
POWERHOUSE MECHANIC (light, heat, & power)	631.261-014
POWER-PLANT OPERATOR (light, heat, & power)	952.382-018
POWER-SAW MECHANIC (any indus.)	625.281-030
POWER-TRANSFORMER REPAIRER (light, heat, & power)	821.361-034
PRECISION ASSEMBLER (aircraft-aerospace mfg.; electronics)	628.381-014
PRECISION ASSEMBLER, BENCH (aircraft-aerospace mfg.)	706.681-010
PRECISION LENS GRINDER (optical goods)	716.382-018
PRESS MAINTAINER (print. & pub.)	627.281-010
PRESS OPERATOR, HEAVY DUTY (any indus.)	617.260-010
PRINTER, PLASTIC (coated fabric; fabric plastics prod.)	651.382-026
PRINTER-SLOTTER OPERATOR (paper goods)	659.662-010
PRIVATE-BRANCH EXCHANGE INSTALLER (tel. & tel.)	822.381-018
PRIVATE-BRANCH EXCHANGE REPAIRER (tel. & tel.)	822.281-022
PROCESS ARTIST (print. & pub.)	972.281-010

OCCUPATIONS	DICTIONARY OF OCCUPATIONAL TITLES (DOT) CODE NO.
PRODUCTION ENGINEER (profess. & kind.)	012.167-046
PROGRAMER, BUSINESS (profess. & kind.)	020.162-014
PROGRAMER, ENGINEERING AND SCIENTIFIC (profess. & kind.)	020.167-022
PROJECTION PRINTER (photofinish)	976.381-018
PROOF-PRESS OPERATOR (print. & pub.)	651.582-010
PROOFSHEET CORRECTOR (print. & pub.)	973.381-030
PROP MAKER (amuse. & rec.; motion pic.)	962.281-010
PROPULSION-MOTOR-AND-GENERATOR REPAIRER (auto. serv.)	721.281-026
PROSPECTING DRILLER (petrol. prod.)	930.382-018
PROSTHETICS TECHNICIAN (pers. protec. & medical dev.)	712.381-038
PROSTHETIST (pers. protec. & medical dev.)	078.261-022
PROTECTIVE SIGNAL INSTALLER (bus. serv.)	822.361-018
PROTECTIVE SIGNAL REPAIRER (bus. serv.)	822.361-022
PUMP ERECTOR (const.)	637.281-010
PUMPER-GAGER (chem.; petrol. refin.; pipe lines)	914.382-014
PUMP SERVICER (any indus.)	630.281-018
PURIFICATION OPERATOR (chem.)	551.362-010
QUALITY CONTROL INSPECTOR (cut. & tools)	701.261-010
QUALITY CONTROL TECHNICIAN (profess. & kind.)	012.261-014
RADIOGRAPHER (any indus.)	199.361-010
RADIO MECHANIC (any indus.)	823.261-018
RADIO REPAIRER (any indus.)	720.281-010
RADIO STATION OPERATOR (aircraft-aerospace mfg.)	193.262-026
RECORDING ENGINEER (phonograph; radio & tv broad.)	194.362-010

OCCUPATIONS	DICTIONARY OF OCCUPATIONAL TITLES (DOT) CODE NO.
RECOVERY OPERATOR (paper & pulp)	552.362-018
RECREATIONAL VEHICLE MECHANIC (trans. equip.)	620.281-087
REFRIGERATION MECHANIC (any indus.)	637.261-026
REFRIGERATION UNIT REPAIRER (refrig. equip.)	637.381-014
RELAY TECHNICIAN (light, heat, & power)	821.261-018
RELAY TESTER (light, heat, & power)	729.281-038
REPAIRER, HAND TOOLS (cut. & tools)	701.381-010
REPAIRER, HEAVY (auto. mfg.)	620.381-022
REPAIRER I (chem.)	630.261-018
REPAIRER, WELDING EQUIPMENT (welding)	626.381-022
REPRODUCTION TECHNICIAN (any indus.)	976.361-010
RESEARCH MECHANIC (aircraft-aerospace mfg.)	022.280-010
RETICLE INSPECTOR (electronics; inst. & app.; optical goods)	719.361-010
RETOUCHER, PHOTOENGRAVING (print. & pub.)	970.381-030
RIGGER (any indus.)	921.260-010
RIGGER (ship & boat bldg. & rep.)	806.261-014
ROCKET-ENGINE-COMPONENT MECHANIC (aircraft-aerospace mfg.)	621-281-030
ROCKET-ENGINE MECHANIC (aircraft-aerospace mfg.)	693.281-026
ROLLER ENGRAVER, HAND (print. & pub.)	979.681-018
ROLL THREADER OPERATOR (nut & bolt)	619.462-010
ROOFER (const.)	866.381-010
ROTOGRAVURE-PRESS OPERATOR (print. & pub.)	651.362-026
RUBBERIZING MECHANIC (any indus.)	630.281-030
RUBBER STAMP MAKER (pen & pencil)	733.381-014
RUBBER TESTER (rubber goods; rubber tire & tube)	559.381-014

OCCUPATIONS	DICTIONARY OF OCCUPATIONAL TITLES (DOT) CODE NO.
RUG CLEANER, HAND (clean. dye, & press.)	369.384-014
SADDLE MAKER (leather prod.)	783.381-026
SAFE-AND-VAULT SERVICE MECHANIC (bus. serv.; whole tr.)	869.381-022
SALESPERSON, PARTS (ret. tr.; whole. tr.)	279.357-062
SAMPLE-BODY BUILDER (auto. mfg.)	693.380-014
SAMPLE MAKER, APPLIANCES (elec. equip.)	600.280-054
SAMPLE STITCHER (garment)	785.361-018
SANDBLASTER, STONE (stonework)	673.382-010
SAW FILER (any indus.)	701.381-014
SAW MAKER (cut. & tools)	601.381-034
SCALE MECHANIC (any indus.)	633.281-026
SCREW-MACHINE OPERATOR, MULTIPLE SPINDLE (mach. shop)	604.382-010
SCREW-MACHINE OPERATOR, SINGLE SPINDLE (mach. shop)	604.382-014
SCREW-MACHINE SET-UP OPERATOR, PRODUCTION (mach. shop)	604.380-022
SCREW-MACHINE SET-UP OPERATOR, SINGLE SPINDLE (mach. shop)	604.280-018
SERVICE MECHANIC (auto. mfg.)	807.381-022
SEWING-MACHINE REPAIRER (any indus.)	639.281-018
SHEET-METAL WORKER (any indus.)	804.281-010
SHIPFITTER (ship & boat bldg. & rep.)	806.381-046
SHIPWRIGHT (ship & boat bldg. & rep.)	860.381-058
SHOEMAKER, CUSTOM (boot & shoe)	788.381-014
SHOE REPAIRER (pers. serv.)	365.361-014
SHOP TAILOR (garment; ret. tr.)	785.361-022

OCCUPATIONS	DICTIONARY OF OCCUPATIONAL TITLES (DOT) CODE NO.
SIDEROGRAPHER (print. & pub.)	979.381-030
SIGNAL MAINTAINER (rr. trans.)	822.281-026
SIGN ERECTOR I (signs)	869.381-026
SIGN WRITER, HAND (any indus.)	970.281-022
SILK-SCREEN CUTTER (any indus.)	979.681-022
SILVERSMITH (silverware)	700.281-022
SKETCH MAKER I (print. & pub.)	979.381-034
SKETCH MAKER II (print. & pub.)	972.381-018
SKIN FITTER (aircraft-aerospace mfg.; air trans.)	806.381-054
SMALL ENGINE MECHANIC (any indus.)	625.281-034
SOFT-TILE SETTER (const.; ret. tr.)	861.381-034
SOLDERER (jewelry)	700.381-050
SOUND MIXER (motion pic.; phonograph; radio & tv broad.)	194.262-018
SOUND TECHNICIAN (any indus.)	829.281-022
SPINNER, HAND (any indus.)	619.362-018
SPRING COILING MACHINE SETTER (spring)	616.260-018
SPRING MAKER (spring)	616.280-010
SPRING-MANUFACTURING SET-UP TECHNICIAN (clock & watch)	619.280-018
SPRING REPAIRER, HAND (auto. serv.)	619.380-018
STAINED GLASS ARTIST (profess. & kind.)	142.061-054
STATIONARY ENGINEER (any indus.)	950.382-026
STATION INSTALLER-AND-REPAIRER (tel. & tel.)	822.261-022
STEAM SERVICE INSPECTOR (light, heat, & power)	862.361-022
STEEL-DIE PRINTER (print. & pub.)	651.382.030
STENCIL CUTTER (loco. & car bldg. & rep.)	970.381-038

OCCUPATIONS	DICTIONARY OF OCCUPATIONAL TITLES (DOT) CODE NO.
STEREOTYPER (print. & pub.)	974.382-014
STOKER-ERECTOR-AND-SERVICER (any indus.)	637.281-014
STONE CARVER (stonework)	771.281-014
STONECUTTER, HAND (stonework)	771.381-014
STONE-LATHE OPERATOR (stonework)	674.662-010
STONEMASON (const.)	861.381-038
STONE POLISHER, MACHINE (stonework)	673.382-018
STONE SETTER (jewelry; optical goods)	700.381-054
STREET-LIGHT SERVICER (light, heat, & power)	824.381-010
STRIPPER (print. & pub.)	971.381-050
STRUCTURAL-STEEL WORKER (const.)	801.361.014
SUBSTATION OPERATOR (light, heat, & power)	952.362-026
SUPERCARGO (water trans.)	248.167-010
SURFACE-PLATE FINISHER (stonework)	775.281-010
SWITCHBOARD OPERATOR (light, heat, & power)	952.362-034
TANK SETTER (petrol. prod.)	801.361-022
TAP-AND-DIE MAKER TECHNICIAN (clock & watch)	601.280-034
TAPE-RECORDER REPAIRER (any indus.)	720.281-014
TAXIDERMIST (profess. & kind.)	199.261-010
TECHNICIAN, SUBMARINE CABLE EQUIPMENT (tel. & tel.)	822.281-034
TELEVISION-AND-RADIO REPAIRER (any indus.)	720.281-018
TELEVISION-CABLE INSTALLER (any indus.)	821.281-010
TEMPLATE MAKER (any indus.)	601.381-038
TEMPLATE MAKER, EXTRUSION DIE (mach. shop)	601.280-038
TERRAZZO WORKER (const.)	861.381-046
TEST ENGINE OPERATOR (petrol. refin.)	029.261-018

OCCUPATIONS	DICTIONARY OF OCCUPATIONAL TITLES (DOT) CODE NO.
TESTING-AND-REGULATING TECHNICIAN (tel. & tel.)	822.261-026
THEROMETER TESTER (inst. & app.)	710.384-030
TILE SETTER (const.)	861.381-054
TINTER (paint & varnish)	550.381-014
TOOL-AND-DIE MAKER (mach. shop)	601.280-046
TOOL DESIGNER (profess. & kind.)	007.061-026
TOOL-DRAWING CHECKER (aircraft-aerospace mfg.)	007.167-022
TOOL GRINDER I (any indus.)	701.381-018
TOOL GRINDER OPERATOR (mach. shop)	603.280-038
TOOL-MACHINE SET-UP OPERATOR (mach. shop)	601.280-054
TOOL MAKER (mach. shop)	601.280-042
TOOL MAKER, BENCH (mach. shop)	601.281-026
TRACTOR MECHANIC (auto. serv.)	620.281-058
TRANSFORMER REPAIRER (any indus.)	724.381-018
TRANSMISSION MECHANIC (auto. serv.) (Automotive Specialty Shops only)	620.281-062
TREATMENT-PLANT MECHANIC (waterworks)	630.281-038
TREE SURGEON (agric.)	408.181-010
TROUBLE LOCATOR, TEST DESK (tel. & tel.)	822.361-030
TROUBLE SHOOTER II (light, heat, & power)	821.261-026
TRUCK-BODY BUILDER (auto. mfg.; auto. serv.)	807.281-010
TRUCK-CRANE OPERATOR (any indus.)	921.663-062
TUNE-UP MECHANIC (auto. serv.)	620.281-066
TURBINE OPERATOR (light, heat, & power)	952.362-042
TURRET-LATHE SET-UP OPERATOR, TOOL (mach. shop)	604.280-022
UPHOLSTERER, INSIDE (furn.)	780.681-010

OCCUPATIONS	DICTIONARY OF OCCUPATIONAL TITLES (DOT) CODE NO.
VIOLIN MAKER, HAND (musical inst.)	730.281-046
WALLPAPER PRINTER I (wallpaper)	652.662-014
WASTE-TREATMENT OPERATOR (chem.)	955.382-014
WASTEWATER-TREATMENT-PLANT OPERATOR (sanitary serv.)	955.362-010
WATCH REPAIRER (clock & watch)	715.281-010
WATER TREATMENT-PLANT OPERATOR (waterworks)	954.382-014
WEATHER OBSERVER (profess. & kind.)	025.267-014
WEB-PRESS OPERATOR (print. & pub.)	651.362-030
WELDER, ARC (welding)	810.384-014
WELDER, COMBINATION (welding)	819.384-010
WELDER-FITTER (welding)	819.361-010
WELDING-MACHINE OPERATOR, ARC (welding)	810.382-010
WELL-DRILL OPERATOR (const.)	859.362-010
WIND-INSTRUMENT REPAIRER (any indus.)	730.281-054
WIND-TUNNEL MECHANIC (aircraft-aerospace mfg.)	827.381-014
WINE MAKER (vinous liquors)	183.161-014
WIRER (office mach.)	729.281-042
WIRE SAWYER (stonework)	677.462-014
WIRE WEAVER, CLOTH (wirework)	616.382-014
WOOD-TURNING-LATHE OPERATOR (woodworking)	664.382-014
X-RAY EQUIPMENT TESTER (any indus.)	729.281-046

AUTHORITY: Sec. 1, 50 Stat. 664, as amended (29 U.S.C. 50; 40 U.S.C. 276c; 5 U.S.C. 301); Reorganization Plan No. 14 of 1950, 64 Stat. 1267 (5 U.S.C. App., p. 534).

SAMPLE FORMS

BAKER
D.O.T. 526.381-010
SAMPLE WORK PROCESS

		Approx. Hours
1.	Cleaning and greasing pans, caring for machinery, cleaning utensils and room, personal cleanliness;	200
2.	Handling, racking, filling, icing - doughnuts breads, cakes, coffee cakes, eclairs, cookies, cupcakes;	500
3.	Mixing, making up, punching and picking out doughs, handling doughs, using machinery;	1,000
4.	Rounding up bread and rolls, making up bread, rolls, etc., dropping out cupcakes, helping make pastry doughs, mixing doughnuts, cookies, various small cakes, scaling;	2,400
5.	Dough room control, formula balance, temperature and times for baking;	800
6.	Cake decorating;	200
7.	Fermentation, ingredients, grades, conditioning, temperature and humidity in storage, scaling of ingredients, formulas, proof box control, special breads and cakes, bench work, cooling.	900
	Total	6,000

The apprentice shall be constantly cautioned regarding safety practices.

JOB-TRAINING SCHEDULES

Floral Designer

Term of Apprenticeship - 1 Year

D.O.T. 142.061.010

		APPROXIMATE HOURS
I.	Designs and fashions floral pieces and decorations	350
II.	Selects natural and artificial flowers and foliage	250
III.	Hand Tools. Wires, pins, and wraps stems with floral tape to form bouquets and corsages, sprays, wreaths, centerpieces and other designs	300
IV.	Plans floral settings for events, such as weddings and balls	150
V.	Decorates buildings such as churches, homes, and dance halls	150
VI.	Paints wreaths and sprays, using brush or spray gun	150
VII.	Mixes soils for various growing mediums	300
VIII.	Determines optimum growing conditions for potted plants and blooming flowers	350
IX.	Safety (Continuous)	
	TOTAL HOURS	2000

DEPARTMENT OF LICENSING AND REGULATION
DIVISION OF LABOR AND INDUSTRY
APPRENTICESHIP AND TRAINING COUNCIL
203 EAST BALTIMORE STREET . BALTIMORE, MARYLAND 21202

BEST COPY AVAILABLE

FOR OFFICE USE ONLY: MATC # _____

TO BE COMPLETED BY THE APPRENTICE

CHECK APPROPRIATE SPACE
___ VIETNAM ERA VETERAN
___ OTHER VETERAN
___ NON-VETERAN
SOCIAL SECURITY NUMBER
_____

CHECK ONE
___MALE ___FEMALE
RACE/ETHNIC GROUP (CHECK ONE)
___ CAUCASIAN/WHITE ___ AMERICAN
___ NEGRO/BLACK ___ SPANISH A
___ ORIENTAL ___ OTHER
HIGHEST EDUCATION LEVEL (CHECK ONE)
___ 8TH GRADE OR LESS
___ 9TH GRADE OR MORE
___ 12TH GRADE OR MORE

MARYLAND APPRENTICESHIP AND TRAINING COUNCIL
APPRENTICESHIP AGREEMENT

THIS AGREEMENT, entered into this _____ day of _____ _____, 19____, between _____ (NAME OF APPRENTICESHIP PRO

hereinafter referred to as the SPONSOR, and _____ (NAME OF APPRENTICE), born _____ (MONTH) (DAY) (YEA

hereinafter referred to as APPRENTICE, and (if a minor) _____ (NAME OF PARENT OR GUARDIAN).

WITNESSETH THAT THE SPONSOR AND THE APPRENTICE DESIRE to enter into an agreement of apprenticeship an therefore, in consideration of the premise and of the mutual covenants herein contained, do hereby mutually covenant a agree as follows:

THAT THE SPONSOR AGREES to be responsible for the selection, placement, and training of the APPRENTICE in the

trade or craft of _____ a _____ _____ year (or hour) program, as work is available, in conformity with the terms and conditions set forth in the apprenticeship standards currently in effect and made part hereof;

THAT THE APPRENTICE AGREES to perform diligently and faithfully the work of the trade or craft during the period o apprenticeship, in conformity with the terms and conditions set forth and made a part hereof;

THAT THE APPRENTICESHIP TERM BEGINS on the _____ day of _____, 19____, with _____

months (or hours) credit for previous experience and terminates upon the satisfactory completion of _____ months (o

hours) of employment for said SPONSOR in said trade or craft with projected completion date on the _____ day of

_____, 19____, as stipulated in the apprenticeship standards currently in effect;

THAT THIS AGREEMENT IS SUBJECT TO APPROVAL by the Maryland Apprenticeship and Training Council;

THAT EITHER PARTY MAY TERMINATE without cause the agreement during the probationary period as provided for herein, by submitting written notification of termination to the registration agency; that after the probationary period, the agreement may be suspended, cancelled, or terminated for good cause with due notice to the APPRENTICE and a reasonable opportunity for corrective action and with written notice to the APPRENTICE and the registration agency of the final action taken;

THAT IF THE REGISTRATION OF THE PROGRAM HAS BEEN CANCELLED OR REVOKED, the APPRENTICE shall be notified by the SPONSOR within 15 days of the cancellation or revocation;

THAT THE PARTIES AGREE that the Maryland Apprenticeship and Training Council is the appropriate authority designated under the program to receive, process and make disposition of controversies or differences arising out of the apprenticeship agreement when the controversies or differences cannot by adjusted locally or resolved in accordance with the established trade procedure or applicable collective bargaining provisions;

THAT THE SPONSOR AGREES that the APPRENTICE shall be given equal opportunity in all phases of apprenticeship employment and training without discrimination because of race, color, religion, national origin, or sex in accordance

THAT THE STANDARDS OF THE APPRENTICESHIP PROGRAM, as it exists on the date of the agreement and as it may be amended during the period of the agreement, is incorporated and made a part of this agreement; and, the APPRENTICE shall be given an opportunity to read the SPONSOR'S approved standards prior to signing the apprenticeship agreement;

SCHEDULES AND STANDARDS

Number of hours of On-The-Job training provided . . . . . _____

Length of Probationary Period . . . . . _____

Number of hours of Related Instruction required per year . . . . . _____

Related Instruction shall be compensated . . . . . Yes _____ No _____

The Progressive Wage Scale to be paid: (State in percentages the Journeyperson's hourly rate.)

1st _____ months/hours _____ %		6th _____ months/hours _____ %	
2nd _____ months/hours _____ %		7th _____ months/hours _____ %	
3rd _____ months/hours _____ %		5th _____ months/hours _____ %	
4th _____ months/hours _____ %		9th _____ months/hours _____ %	
5th _____ months/hours _____ %		10th _____ months/hours _____ %	

The Journeyperson's hourly rate on _____, 19____, was _____.
(If the program's wage rate is not established by a collective bargaining agreement, indicate in dollars and cents the average journeyperson's hourly rate.)

IF THE SPONSOR IS AN ASSOCIATION, state the name of the participating employer:

_____.

Schedule of ON-THE-JOB-TRAINING work processes to be taught and the approximate time for each process, attached as Appendix I and made a part hereof.

IN WITNESS WHEREOF, the parties hereunto affix their signatures.

_____ (APPRENTICE)	_____ (SPONSOR'S AUTHORIZED OFFICIAL)
_____ (ADDRESS)	_____ (ADDRESS)
_____	_____
_____ (GUARDIAN)	

BEST COPY AVAILABLE

REGISTERED WITH
THE MARYLAND APPRENTICESHIP AND TRAINING COUNCIL

_____ (DATE)	_____ (SIGNATURE AND TITLE OF AUTHORIZED OFFICIAL)

State of Maryland

Maryland Apprenticeship And Training Council

Certificate of Completion of Apprenticeship

-66-

having completed training under standards approved by and registered with the Maryland Apprenticeship and Training Council is awarded this certificate attesting to his qualifications in the skills and knowledge of a journeyman _____ . *This* _____ *Day of* _____

19 _____ .

TRADE JOINT APPRENTICESHIP COMMITTEE

_____
CHAIRMAN

_____
SECRETARY

_____
COMMISSIONER OF LABOR AND INDUSTRY

_____
CHAIRMAN, APPRENTICESHIP AND TRAINING COUNCIL

_____
SECRETARY, APPRENTICESHIP AND TRAINING COUNCIL

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ATTACHMENT E

EXPLORING THE REFERENCES AND RELATED STUDIES

Administering An Apprenticeship Program For the Trade of Operating Engineer. Book II. Washington, DC: International Union of Operating Engineers, n.d.

"Apprenticeships: New Jobs in an Old Tradition." Occupational Outlook Quarterly 24 (Winter 1980): 9-11.

Arpin, Harold T. "Apprenticeship, Vocational Education, and CETA." The Wisconsin Vocational Educator 2 (January 1978): 3-4.

Employability Development Plans: Developing EDPs and Counseling Participants. Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1981.

Far West Laboratory for Educational Research and Development. Apprenticeship and Other Blue Collar Job Opportunities for Women. San Francisco: Far West Laboratory for Educational Research and Development, 1978.

Associate Consultants, Inc. Final Report on CETA-Apprenticeship Linkages. A report prepared for the U.S. Department of Labor, Washington, DC: Associate Consultants, Inc., 1978.

Franklin, William S., and Glover, Robert W. The One-Step Apprenticeship Opportunity Center: A Feasibility Study. Austin: The University of Texas at Austin, Center for the Study of Human Resources, 1978.

Glover, Robert W. Apprenticeship in the United States: Implications for Vocational Education Research and Development. Occasional Paper no. 66. Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1980.

Greenwood, K.; Larson, E.; and McDermott, V. "Apprentice Programs in Texas: Job Training by the Private Sector." Education-for-Work Linkage News 1, no. 5 (1981). (Published by the Education-for-Work Linkage Project, Texas A & M University, College Station, TX.)